

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in this application.

1. (Currently Amended) A very flexible Medium Access Control and Physical layer MAC/PHY layer (MAC and PHY) controller comprising programmable pre-defined operation hardware coprocessor modules ~~including programmable parameterized functions~~, wherein the programmable coprocessor modules ~~controls~~ pre-defined hardware blocks having parameterized functions whose parameter values are programmable are coupled to a general purpose coprocessor and hardwired DSP logic.

2. (Currently Amended) The controller of claim 1, wherein the programmable pre-defined operation hardware coprocessor modules ~~hardware module~~ can be easily adapted to changes in regulatory, device and end-product requirements with simple software changes.

3. (Currently Amended) The controller of claim 1, wherein the programmable pre-defined operation hardware coprocessor modules ~~hardware modules~~ are an implementation of a Powerline Communications (PLC) MAC and PHY MAC/PHY, targeted at an-home environment.

4. (Currently Amended) The controller of claim 1, wherein the programmable pre-defined operation hardware coprocessor modules ~~hardware modules~~ are an implementation of a PLC MAC and PHY MAC/PHY, targeted at an access environment.

5. (Currently Amended) The controller of claim 1, wherein the programmable pre-defined operation hardware coprocessor modules ~~hardware modules~~ are an implementation of a

PLC MAC and PHY MAC/PHY targeted at an MDU/MTU Multiple Dwelling Unit and Multiple Tenant Unit environment.

6. (Currently Amended) The controller of claim 1, wherein the programmable pre-defined operation hardware coprocessor modules hardware modules are an implementation of a PLC MAC and PHY MAC/PHY, targeted at any communications technology.